

INTERNATIONAL STANDARD

**Passive RF and microwave devices, intermodulation level measurement –
Part 6: Measurement of passive intermodulation in antennas**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PASSIVE RF AND MICROWAVE DEVICES, INTERMODULATION LEVEL MEASUREMENT –

Part 6: Measurement of passive intermodulation in antennas

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International Standard IEC 62037-6 has been prepared by technical committee 46: Cables, wires, waveguides, r.f. connectors, r.f. and microwave passive components and accessories.

The text of this standard is based on the following documents:

FDIS	Report on voting
46/410/FDIS	46/422/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 62037 series, published under the general title *Passive RF and microwave devices, Intermodulation level measurement* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

PASSIVE RF AND MICROWAVE DEVICES, INTERMODULATION LEVEL MEASUREMENT –

Part 6: Measurement of passive intermodulation in antennas

1 Scope

This part of IEC 62037 defines test fixtures and procedures recommended for measuring levels of passive intermodulation generated by antennas, typically used in wireless communication systems. The purpose is to define qualification and acceptance test methods for antennas for use in low intermodulation (low IM) applications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62037-1:2012, *Passive r.f. and microwave devices, intermodulation level measurement – Part 1: General requirements and measuring methods*

IEC 62037-3, *Passive r.f. and microwave devices, intermodulation level measurement – Part 3: Measurement of passive intermodulation in coaxial connectors*

3 Abbreviations

AIM	Active intermodulation
AUT	Antenna under test
ESD	Electrostatic discharge
HPA	High power amplifier
IM	Intermodulation
LNA	Low noise amplifier
PIM	Passive intermodulation
RF	Radio frequency

4 Antenna definitions as it pertains to PIM

4.1 Antenna

An antenna is that part of a radio transmitting or receiving system which is designed to provide the required coupling between a transmitter or a receiver and the medium in which the radio wave propagates.

The antenna consists of a number of parts or components. These components include, but are not limited to, one or many radiating elements, one or many RF interfaces, a distribution or combining feed network, internal support structures, devices which control or adjust the amplitude/phase response and distribution to the radiating element(s), filters, diplexers, orthomode transducers, polarizers, waveguides, coaxial cables or printed circuits. In addition, peripheral components could also influence the PIM performance of the antenna. These